REMARKS/ARGUMENTS

This Amendment is in response to the Office Action dated July 26, 2004. Claims 1-18 are pending. Claims 1-18 are rejected. No claims have been amended or canceled. Accordingly, claims 1-18 remain pending in the present application.

Claims 1-18 are rejected under USC 103(a) as being unpatentable over the article entitled, "ARIES: A Transaction Recovery Method Supporting Fine-Granularity Locking and Partial Rollbacks Using Write-Ahead Logging" by Mohan et al. (hereinafter "Mohan") in view of US Patent No. 5,983,225 to Anfindsen. In the section "Response to Arguments", the Examiner states:

> ...As stated by applicant, Mohan discloses 'locks obtained after the establishment of the savepoint which is the target of the rollback may be released after the partial or total rollback is completed." (p. 120, first full paragraph) However, Anfindsen discloses acquiring read locks to the transaction (not all locks as implied by applicant) and maintaining these locks until commit or abort, wherein other locks (such as for write, update & delete operations) are released upon rollback. Thus, Anfindsen does disclose the selective assignment of locks using the repeatable read ad transaction consistency isolation protocols, contrary to applicant's assertion. As this technology from Anfindsen is added to Mohan's disclosure in the combination, read locks are selectively assigned to the transaction while other locks are assigned to the savepoint(s), and these assignments determine which locks are released after a rollback. Finally, Mohan in view of Anfindsen does teach rolling back the transaction to the at least one savepoint and releasing any locks assigned to the at least one savepoint, wherein any locks assigned to the transaction are maintained... in combination with the other elements in the independent claims.

Applicant respectfully disagrees. The present invention, as recited in independent claims 1, 8, 9, and 16-18, provide a method and system for selectively releasing locks on data, comprising: (a) providing at least one savepoint in a transaction, wherein a first lock and a second lock are acquired after the at least one savepoint, wherein the first lock is assigned to the at least one savepoint and the second lock is assigned to the transaction; (b) rolling back the transaction to the at least one savepoint; and (c) releasing any locks assigned to the at least one savepoint, wherein any locks assigned to the transaction are maintained, wherein the first lock is released and the second lock is maintained.

According to the present invention, locks which are to persist until commit are assigned to the transaction. Locks which are to be released when rolled back to a savepoint are assigned

to the savepoint. When a rollback to the savepoint occurs, locks assigned to the savepoint are released while locks assigned to the transaction are maintained.

The significance of assigning savepoints either to the savepoint or the transaction is in the manner in which a lock releases the locks. As in known in the art, when a rollback to a savepoint occurs, the lock manager may release locks acquired after a savepoint by examining each lock and determining whether it should be released. However, by assigning locks to savepoints or transaction, as with the present invention, the lock manager can release locks based on this assignment or "ownership", without requiring a per-lock examination. Overhead is thus reduced.

In contrast, neither Mohan nor Anfindsen discloses assigning locks in this manner. Mohan discloses "locks obtained after the establishment of the savepoint which is the target of the rollback may be released after the partial or total rollback is completed." (p. 120, first full paragraph) Anfindsen discloses acquiring locks to the transaction and maintaining these locks until commit or abort.

However, unlike the present invention, the combination of Mohan and Anfindsen does not disclose selectively assigning locks either to the savepoint or the transaction, and then releasing the locks assigned (or "owned") by a savepoint when the transaction is rolled back to the savepoint, where the locks assigned by the transaction are maintained. Maintaining or releasing of locks based on assignment or ownership cannot be inferred by the mere fact that certain locks are released after a rollback occurs while other locks are maintained. Without actually assigning the locks in the above described manner and releasing locks based on these assignments, the overhead savings resulting from the present invention cannot be realized by Mohan in view of Anfindsen.

Thus, Mohan in view of Anfindsen does not teach or suggest rolling back the transaction to the at least one savepoint and releasing any locks assigned to the at least one savepoint,

wherein any locks assigned to the transaction are maintained, wherein the first lock is released and the second lock is maintained, in combination with the other elements as recited in amended independent claims 1, 8, 9, and 16-18 of the present invention.

Therefore, for the above identified reasons, the present invention as recited in independent claims 1, 8, 9, and 16-18 is neither taught nor suggested by Mohan in view of Anfindsen. Applicant further submits that claims 2-7 and 10-15 are also allowable because they depend on the above allowable base claims.

In view of the foregoing, Applicant submits that claims 1-18 are patentable over the cited references. Applicant, therefore, respectfully requests reconsideration and allowance of the claims as now presented.

Applicants' attorney believes this application in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,
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